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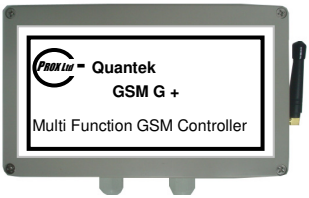


Introduction

Low voltage device
Gates - Cameras etc

The **GSM G+** has been designed to operate Gates and other electrical devices using your existing Mobile Phone or Land Line and also eliminating the problems that occur with low range wireless remote controls as this system has no range barriers.
This system allows the administrator or user to operate two separate relays. One using caller ID to active **Relay 1** automatically with a voice call or alternately it is possible to SMS the system to activate **Relay 2** to perform another function. Another feature is an **Alarm Input function** which has the ability to send up to 8 separate SMS alerts in the event of an incident such as a power failure or an alarm being activated and a personal customized message can be programmed into the system.
The system comes with a built-in power supply and external antenna and only requires a valid SIM Card.

Please read through the instruction manual before you start to install and program the GSM G+

Power Supply

The Integral Power supply of 12 Volt DC supply capable of providing 1 Amp current, never use the power supply from Gate control panels as they may show a 12 Volt reading and initially Log on to the system, but can draw higher current when Network signal strengths drop and not only log off, but may also blow the fuses on the Gate control board as GSM Modems will draw excessive currents whilst searching for the network connections.

SIM Card

The system will accept any Universal Network GSM SIM Card (UPDATE: Vodafone PAYG SIM cards no longer work). It is essential that you remove any Pin Code requests from the SIM Card which can be done by placing the SIM Card in an unlocked Mobile Phone and using the features on most Mobile Phones to disable the Pin Code request as if the Pin Request is enabled the system will not log on to the network and the unit will refuse to be programmed.
In addition it is essential you also disable the Voice Mail function which can be in some case done again by placing the SIM Card in an unlocked Mobile Phone and contacting your service provider to remove this function and insure the SIM Card does not accept or store any incoming voice messages.

Mobile Phone Credit

It is also essential that the SIM Card is retained with enough credit at all times so as to be able to receive the SMS text alerts when making any changes to the system remotely even though the system will continue to perform and make the changes required although you just will not receive the confirmation text messages back from the unit.
In addition the system will still operate by calling the unit and opening the Gate as there is no connection charge for using this function.

Installing the SIM Card and booting up the system:

To Install the SIM Card you will need use a small pointed screw driver and depress the small yellow button beside the SIM Card tray as labeled SIM Card and the SIM Card tray will pop out. You can remove the tray and locate the SIM Card in the holder and gently slide the SIM Card tray back into its receiver slot.
Don't ever force the SIM Card tray or attempt to remove it out with a screw driver by levering it as you will only damage the unit and render it useless.
The Red power light will come on and the Green network light will oscillate infrequently until it locates the network, once it has secured itself on the network the green Network light will flash every 4 seconds constantly.
If this does not happen after say one minute, the system has not logged on and you will need to check the SIM Card is positioned correctly and that the antennae is connected or it may be the signal area is too low.
Once the system is connected to the network it is now possible to actually Change the Password if required and then check the Signal Strength at the location using SMS Messaging.

Password

All SMS Commands are sent to the unit with a Password prefix which is factory set as default of the password digits of **123456**
#PWD123456 and this format is the prefix to any commands sent to the unit and all of the commands are always sent in **CAPITAL** letters with no spaces or symbols!
It is possible to change this password if required, and to change this to **654321** you would send the unit the following SMS Message.
#PWD123456#CAP654321#CAP654321 and this is sent in this format as confirmation and you should receive the following SMS message from the unit if sent correctly.
CAP: 654321 and the new password is now **654321**, this will be used for the following examples.

Checking the Signal Strength

The next thing you may wish to do is check the actually signal Strength at the location and to do this you would send the unit the following SMS Message.
#PWD654321#CSQ? you should receive the following similar SMS message from the unit if sent correctly. **CSQ <12 >**
This indicates the signal strength of **<12 >** from a range of between **< 1 >** and < **31 >.** It is advised that if you are registering a signal strength any lower then < **5 >** or **< 6 >** you should add an additional external antennae to improve the signal strength or change the Network.

Security Mode

The system can store up to 99 numbers that are the numbers that would be authorized to access the system by calling the unit and this mode of security can be tuned on or off to suit the customer requirements.

These 2 modes are either **"Open Mode"** in which any person calling the unit can access the system (not recommended as number may receive marketing calls)

or **"Security Mode"** which restricts access to the numbers programmed into the system. (White List)

The Factory default is set to **"Security Mode"**

To switch the mode of operation back to **"Open Mode"** you would send the unit the following SMS Message **#PWD654321#ACM0** and you should receive the following SMS message back from the unit if sent correctly **ACM-OFF**

To switch the mode of operation to **"Security Mode"** you would send the unit the following SMS Message **#PWD654321#ACM2** and you should receive the following SMS message back from the unit if sent correctly **ACM-ON**

Adding and Deleting Numbers in the White List

The system will accept up to 99 Mobile or Landline numbers that are authorized to access the system and to store these numbers in the authorized list you can use the following format as from 01 up to 99 and to store number one number in the list you would send the unit the following SMS Message assuming the number as **07123456789** and it is not required to enter the (**0**)

#PWD654321#WHL01=7123456789 and you should receive the following SMS message from the unit if sent correctly. **WHL01: 7123456789**

This format applies up to the last number as **#PWD654321#WHL99=**

To delete any numbers in the list you would send the following SMS Message to the unit and assuming you were deleting telephone number one of the authorized list as **WHLO1=7123456789**

#PWD654321#WHL01D and you should receive the following SMS message from the unit if sent correctly. **WHL01D <OK>** and number 1in the authorized list has been deleted**.**

Checking a telephone Number in the Security List

If you want to check any number in the authorized list you can do so by sending the following SMS Message to the unit as assuming you are checking number one in the authorized list.

#PWD654321#WHL01? and you should receive the following SMS message from the unit if sent correctly. **WHL01: 7123456789**

Setting up the Output relay one Latching time when called

This function sets the actual latching time when you call the unit and is factory pre-set at 1 second but it is possible to extend this latching time up to 60 seconds

To reset the latching time to 5 seconds for say a Magnetic Lock, you would send the following SMS Message to the unit.

#PWD654321#GOT05 and you should receive the following SMS message from the unit if sent correctly. **GOT: 05** and the Output Relay one will now latch for 5 seconds whenever the unit is called.

Temporary latching any or both relays

It is possible to temporary latch both relays independently and in the case of relay one this does not affect the default setting of the GOT command.

Both relays can be temporary latched from 1 second up to 65,000 i.e. 18 hours and to latch Relay one for a period of 3600 seconds you would send the following SMS message to the unit.

#PWD654321#RLY1=03600 and you should receive the following SMS message from the unit if sent correctly. **RLY1: 03600** and Relay one has latched for a period of 3600 seconds.

To Latch Relay two for a period of 3600 seconds you would send the following SMS Message to the unit.

#PWD654321#RLY2=03600 and you should receive the following SMS message from the unit if sent correctly. **RLY2:03600** and Relay one has latched for a period of 3600 seconds.

Latching the relays permanently On and Off

It is possible to latch both relays either On or Off permanently and this will not affect the default setting of Relay one but the command to latch for the 1 second will obviously be ignored if the Relay has been programmed to be permanently switched On.
To Latch Relay 1 **On** permanently you would send the following the SMS Message to the unit. **#PWD654321#RLOP1=1** and you should receive the following SMS message from the unit if sent correctly. **RLOP1: ON** and Relay one has been latched permanently **On.**
To Latch Relay 1 **Off** permanently you would send the following the SMS Message to the unit. **#PWD654321#RLOP1=0** and you should receive the following SMS message from the unit if sent correctly. **RLOP1: OFF** and Relay one has been latched permanently **Off.**
The same format would be used for permanently latching Relay 2 On and off using the commands as **#RLOP2=1** and **#RLOP2=0**

Receiving SMS Text alerts and messages from the unit

It is possible to receive SMS alert messages to confirm both relay latching has been implemented and also when the Relays Latch off.
In addition it is possible to receive SMS text alerts when the Input is activated as described in the Alarm Functions section.
The system can send these SMS text alerts to 8 separate Mobile phones in the sequence they were programmed into the system and referred to as administrator numbers 1-8 and can also be toggled on or off remotely via a Matrix as explained in the **Administrators Matrix** section.

Programming in the Administrator Numbers

The Administrator numbers are programmed into the system using the command **#TEL1** through to **#TEL8** and to program in **#TEL1** you would send the following SMS Message to the unit. **#PWD654321#TEL1=07847070001** and you should receive the following SMS message from the unit if sent correctly. **TEL1: 07847070001**
When programming the administrator numbers always enter the **full telephone number** and if you wish to receive SMS alerts whilst abroad always put the complete number in including the International code as this is the number the system is programmed to transmit the SMS text alerts to.
The remaining administrator numbers are programmed in the same format up to **#TEL08**

Administrators Matrix

Once you have programmed in the administrators numbers it is possible to also now program a matrix of who should receive the SMS text alerts and confirmation messages.
The system is pre-set as factory default to send **#TEL1** SMS text alerts and messages once that number has been entered and confirmed in the **#TEL1** and the **#CTR=1** alarm function turned On.
The Matrix is programmed using the **#RERN** command which can toggle the list of numbers On or Off based on using the digit **1 as On** and **0 as Off** as follows.
The factory default has set up the **#RERN** as **#RERN=10000000** which indicates the first administrator number in the list will receive the SMS text alerts and messages and the remaining seven administrators will not receive any SMS text alerts or messages.
To change the Matrix of persons who will receive the SMS alerts or messages you would simply use this format and to assume we want only administrator 1 4 and 6 to receive the SMS alerts and messages we would send the following SMS message to the unit.
#PWD654321#RERN=10010100 and you should receive the following SMS message from the unit if sent correctly. **RERN=10010100** and only the administrators 1 4 and 6 will receive the SMS text alerts and messages.
To change the matrix you would just over write the existing matrix by sending anther SMS message to the unit and if you want to send more than one message to one off the Administrators you would simply enter that administrator in the **#TEL** list the number of times you want them to receive the SMS text alerts and messages.

Setting up the Alarm Input Message when activated

The system has an alarm Input that will trigger a customized SMS text alert to the administrators as recorded in the **#TEL** list and activated in the Matrix to receive the SMS text alerts.**(and you also need to have the #CTR=1 alarm function turned On)**

This alarm is activated by applying a 12 Volt DC supply to the alarm Input connection for a period of 5 seconds and to customize the SMS Message you would send the following SMS Message to the unit assuming the required message is to be **"Gate Forced"**

#PWD654321#STR="Gate Forced" and you should receive the following SMS message from the unit if sent correctly. **STR: "Gate Forced"** and this SMS Message will now be sent to the administrators from the **#TEL** list that are programmed in the Matrix to receive the SMS text alerts.

Setting up the Alarm Input Message when De-activated

It is also possible to Program an alarm message that is sent when the alarm Input returns to normal status or Alarm Power is removed and to set the following message as "**Gate locked again"** you would send the following message to the unit.

#PWD654321#STO="Gate locked again" and you should receive the following SMS message from the unit if sent correctly. **STR: "Gate locked again"** and this SMS Message will now be sent to the administrators from the **#TEL** list that are programmed in the Matrix to receive the SMS text alerts.

Setting up the alarm status Modes "Power applied" and "Normal status"

The system allows you to send just an alarm message when the power is applied and no alert messages when the power returned to normal and this is done by sending the following message to the unit **#PWD65432#CTC=5** and you should receive the following SMS message from the unit if sent correctly. **#CTC <5>** and you will only receive the message as programmed in as with the **#STR "Gate Unlocked"** when the Voltage is applied to the Input alarm connection.

To receive the **#STR** alert message when the Voltage is applied and also to receive the **#STO** message when the input Voltage is removed you would send the following SMS message to the unit. **#PWD654321#CTC=6** and you should receive the following SMS message from the unit if sent correctly. **CTC <6>** and the administrators programmed to receive text alerts will receive both messages.

To receive either alert messages one or the other of the **#CTC=5** or **#CTC=6** have to be programmed into the system otherwise the alert messages will not be sent and also the following alarm function must be turned on.

Turning the Alarm function On and Off

The alarm function can also be turned on or off if required and to turn this function on you would send the following SMS Message to the unit.

#PWD654321#CTR=1 and you should receive the following SMS message from the unit if sent correctly. **CTR: ON** and the Alarm Function has been turned on**.**

To turn this function back off you would use the command **#CTR=0** and you should receive the following SMS message from the unit if sent correctly. **CTR: OFF** and the alarm function has been turned off.

Resetting the System

The system can be reset to factory default by sending the following SMS Message to the unit.

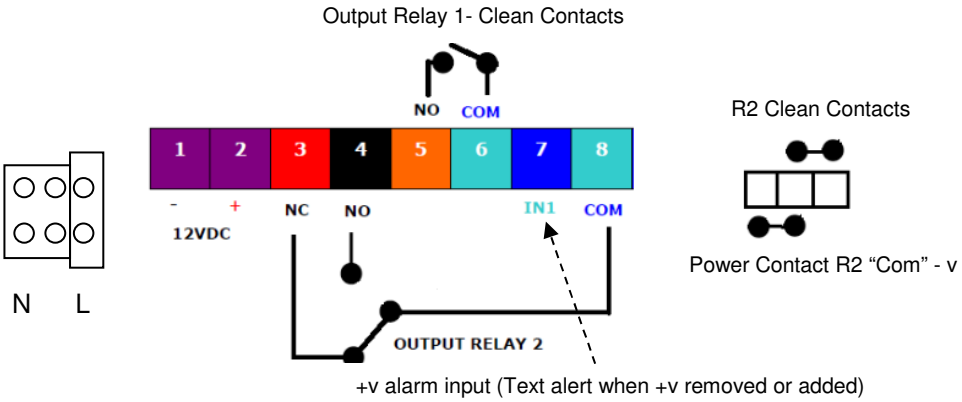
***REST#654321** and you should receive the following SMS message from the unit if sent correctly. **REST-OK** and the system has now been restored to factory default**.**

The password is now restored to 123456 the default latching time for Relay one is 1 Second and the system memory is now blank! And will require reprogramming from the beginning. So please note this when sending the *REST# command

LIST OF SMS COMMANDS

#PWD123456	FACTORY DEFAULT PASSWORD
#CAP	CHANGE PASSWORD
#CSQ?	CHECK SIGNAL STRENGTH
#WHL	ADD USER NUMBERS
#WHL D	DELETE USER NUMBERS 1-99
#WHL99D	DELETE ALL USER NUMBERS
#WHL ?	CHECK USER NUMBER POSITION 1-99
#GOT 01-60	CHANGE RELAY 1 DEFAULT LATCHING TIME
#RLY1 #RLY2	TEMPORY LATCHING
#RLOP1 #RLOP2	PERMINANT LATCHING
#TEL 01-08	ADD ADMINISTRATORS
#RERN	SET ADMINISTRATORS MATRIX
#STR	SET ALARM MESSAGE Voltage High
#STO	SET ALARM MESSAGE Voltage Low
#CTC=5	TURN ON ALARM MESSAGE #STR
#CTC=6	TURN ON ALARM MESSAGES #STR AND #STO
#CTR1 #CTR0	TURN ALARM FUNCTION ON-OFF
#ACM0	TURN SECURE ACCESS MODE OFF
#ACM2	TURN SECURE ACCESS MODE ON
*REST#	RESET UNIT

Schematic and Wiring Diagram



Relay 1: Phone call operation
Relay 2: Text operation

Trouble Shooting

1. Red power LED not alight	Check that the power supply is connected into the right terminals and that there are no loose connections.
2. Green network LED is NOT flashing every 4 seconds	Ensure that your SIM card has been activated and that the PIN request has been disabled. Make sure the SIM card has been inserted correctly. If the unit is in a low signal strength area consider using an external antenna or changing to another network provider.
3. I am not receiving text messages when initially programming the unit	Ensure the unit is connected to the GSM network by observing the green network LED, it should be flashing every 4 seconds. Ensure the SIM has credit.
4. The unit occasionally activates itself	Network operators often make marketing calls to their subscribers; switch on secure access mode so only numbers in the white list can activate the unit.
5. The unit has been working for several months and has now stopped responding to calls and text commands	Most but not all PAYG SIM cards will be de-activated by the network if not used to make an outgoing voice call or send an SMS text message within a specific period of time. To prevent this simply send the GSM G+ a text command, it will reply by text message, do this once a month to keep the SIM card active.
6. When I call the unit I do not receive a confirmation text message	The unit only sends relay status messages in response to the #RLOP and #RLY commands
7. After initial setup the relays can only be activated by text and not by my calls	Ensure the voicemail feature has been disabled on the SIM card. Ensure the number is in the White List.